

# Digital Storytelling in Electronic Portfolios for Reflection and Deep Learning

**Dr. Helen Barrett**  
University of Alaska Anchorage  
The REFLECT Initiative

## Based on my online articles

- **Electronic Portfolios as Digital Stories of Deep Learning**
  - *Emerging Digital Tools to Support Reflection in Learner-Centered Portfolios*
- **White Paper for TaskStream**
- **<http://electronicportfolios.org/>**
  - Under Online Publications
  - Slides under Recent Conference Presentations

## Themes

- Portfolios
- Assessment for Learning
- Reflection
- Storytelling
- Digital Storytelling
- Examples

## What is a Portfolio in Education?

A portfolio is a purposeful collection of student work that exhibits the student's efforts, progress and achievements in one or more areas *[over time]*.

(Northwest Evaluation Association, 1990)

## What is a Portfolio in Education? (2)

The collection must include:

- student participation in selecting contents
- the criteria for selection
- the criteria for judging merit
- evidence of student self-reflection

(Northwest Evaluation Association, 1990)

## "The Blind Men and the Elephant"

- Eskimos having 49 different words for "snow"
- Those who don't live in that environment tend to see it all as the same cold white stuff
- Same goes with "portfolio"

## Metaphors!

- Mirror, Map, Sonnet
  - C.V. or Multimedia Resume
  - Test
  - Story
- <http://electronicportfolios.org/metaphors.html>

## Purpose & Goals for the portfolio (Determine Content)

- Multiple purposes:
  - Learning/Process
  - Assessment
  - Marketing/Showcase

## Learning Portfolios

- *"know thyself" = a lifetime of investigation*
- *self-knowledge as outcome of learning*



*The Learning Portfolio*  
(Zubizaretta, 2004,  
p.20)

## Learning Portfolios

- Support reflection which is central to learning
  - "Folio Thinking"
- Reflection:
  - The Heart and Soul of the Portfolio
- An electronic portfolio without reflection is just a
  - Digital scrapbook
  - Fancy electronic resume
  - Multimedia Presentation
  - Personal web site

## Showcase Portfolios

- Marketing
- Employment
- Tell your story
- A primary motivator for many portfolio developers

## Assessment Portfolios

- A major movement in Teacher Education in U.S.
  - A major new commercial market
  - A primary motivator for organizations
- More later!

Think about the differences between:

- Learning Portfolio *and* Portfolio Learning
- Assessment Portfolio *and* Portfolio Assessment
- Portfolio = **Concept, Product, and Process**

A few thoughts about **Assessment -- What Type?**

- Assessment OF Learning? or
- Assessment FOR Learning?

[www.qca.org.uk](http://www.qca.org.uk)  
ages 3-14

Research-based principles of assessment for learning to guide classroom practice

**Assessment for Learning**

Principles of Assessment FOR Learning

- **Definition:** Assessment for Learning is the process of seeking and interpreting evidence for use by learners and their teachers to decide where the learners are in their learning, where they need to go and how best to get there.

**Overlap of Assessment Types\***

Portfolios that support Assessment OF Learning  
Institution-centered

Portfolios that support Assessment FOR Learning  
Learner-centered

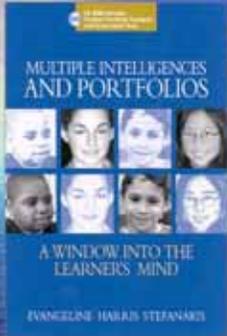
**Portfolios used for Assessment OF Learning**

- Purpose of portfolio prescribed by institution
- Artifacts mandated by institution to determine outcomes of instruction
- Portfolio usually developed at the end of a class, term or program - time limited
- Portfolio and/or artifacts usually "scored" based on a rubric and quantitative data is collected for external audiences
- Portfolio is usually structured around a set of outcomes, goals or standards
- Sometimes used to make high stakes decisions
- Summative - what has been learned to date? (Past to present)
- Requires Extrinsic motivation
- Audience: external - little choice

## Portfolios that support Assessment FOR Learning

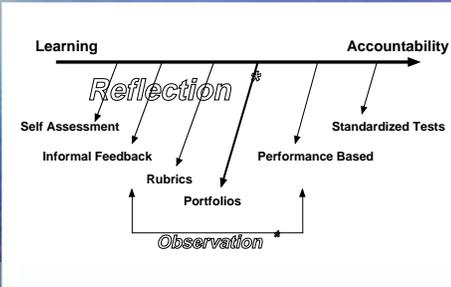
- Purpose of portfolio agreed upon with learner
- Artifacts selected by learner to tell the story of their learning
- Portfolio maintained on an ongoing basis throughout the class, term or program - time flexible
- Portfolio and artifacts reviewed with learner and used to provide feedback to improve learning
- Portfolio organization is determined by learner or negotiated with mentor/advisor/teacher
- Rarely used for high stakes decisions
- Formative - what are the learning needs in the future? (Present to future)
- Fosters Intrinsic motivation - engages the learner
- Audience: learner, family, friends - learner can choose

## A Resource on K-12 Portfolios



- By Evangeline Harris Stefanakis
- Published by Heinemann
- Includes a CD-ROM with examples of student portfolios

## Assessment for Learning Continuum - Enhanced

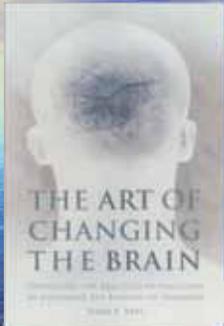


Stefanakis, Evangeline (2002) *Multiple Intelligences and Portfolios*. Portsmouth: Heinemann, p. 136

## What is Reflection?

- Major theoretical roots:
  - Dewey
  - Habermas
  - Kolb
  - Schön
- Dewey: "We do not learn from experience... we learn from reflecting on experience."

## Resource on Biology of Learning

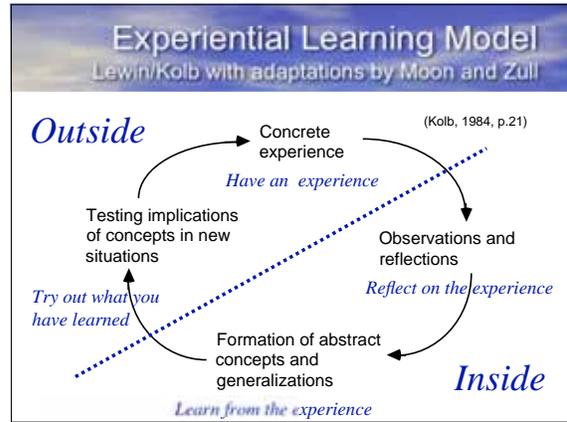
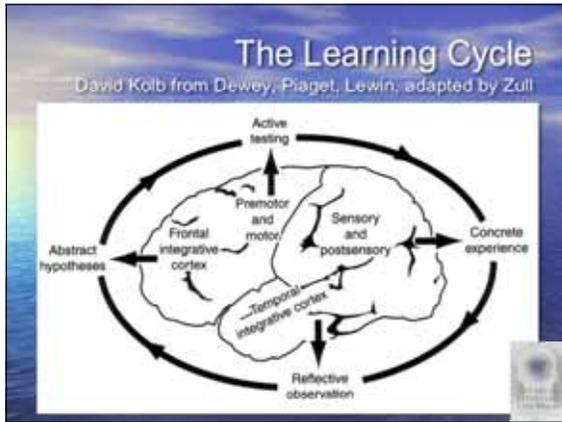


- Enriching the Practice of Teaching by Exploring the Biology of Learning
- James E. Zull
- Stylus Publishing Co.

## The Learning Cycle

David Kolb from Dewey, Piaget, Lewin

- **Deep Learning** (learning for real comprehension) comes from a sequence of
  - Experience
  - Reflection
  - Abstraction
  - Active testing
- Zull: the learning cycle arises naturally from the structure of the brain (p.19)



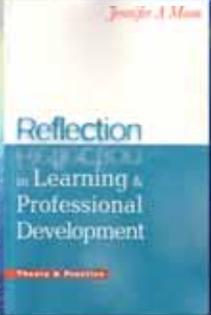
- ### Reflection and Emotion
- James Zull
- Hard to make meaning of experience unless it engages our emotions. (p.166)
  - Reflection: a search for connections
  - Sleep researchers: dreams help us make connections... We discover what is important to us, because we dream about what matters most. (p.168)
  - For comprehension we need time. (p.168)

- ### Reflection and Emotion
- James Zull
- decrease our emphasis on speed and information
  - increase the possibilities for reflection
  - give our students the kind of experience that would produce dreams-- **experiences that engage their emotions.** (p.168)
  - "...our experiences **must matter in our lives** if we are to learn from them." (p.168)
  - "...it suggests how seriously we have to take emotion if we want to foster deep learning." (p.169)

- ### Stories and Learning
- James Zull
- Roger Shank: importance of stories in learning
  - Recalling and creating stories are part of learning
  - Stories engage all parts of the brain
  - Learning is deepest when it engages the most parts of the brain
  - Teachers and students should:
    - Tell stories
    - Create stories
    - Repeat stories

- ### My own story
- The issue of time and learning - reaching another transition and decision point in a long career, reflecting on the milestones in my life
  - Play "choices"
-

## Jennifer Moon's Definition



Reflection is a form of mental processing – like a form of thinking – that we use to fulfill a purpose or to achieve some anticipated outcome. It is applied to relatively complicated or unstructured ideas for which there is not an obvious solution and is largely based on the further processing of knowledge and understanding and possibly emotions that we already possess (based on Moon 1999)

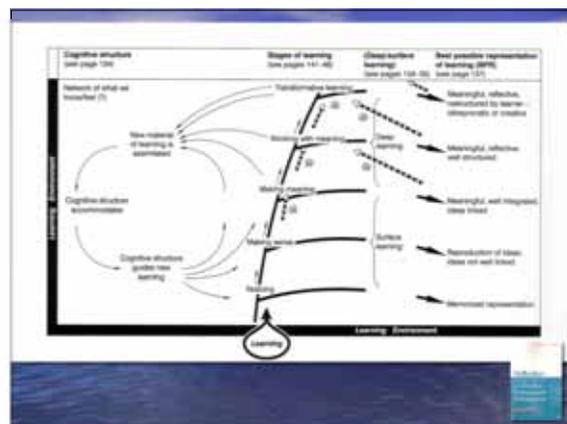
## Moon on Reflection

- One of the defining characteristics of surface learning is that it does not involve reflection (p.123)
- Conditions for Reflection:
  - Time and space
  - Good facilitator
  - Curricular or institutional environment
  - Emotionally supportive environment

## Moon's Qualities of Tasks that Encourage Reflection

- Ill-structured, 'messy' or real-life situations
- Asking the 'right' kinds of questions – no clear-cut answers
- Setting challenges can promote reflection
- Tasks that challenge learners to integrate new learning into previous learning
- Tasks that demand the ordering of thoughts
- Tasks that require evaluation

pp.175-6



## Storytelling as a Theory of Learning



- Two educators from New Zealand - staff developer and health educator
- Relates storytelling to literature on learning and reflection
- Provides stages of storytelling related to reflection



## Links between Learning and Storytelling

Map of Learning (Moon, 1999)	Learning through Storytelling (McDrury & Alterio, 2003)
<ul style="list-style-type: none"> <li>• Noticing</li> <li>• Making sense</li> <li>• Making meaning</li> <li>• Working with meaning</li> <li>• Transformative learning</li> </ul>	<ul style="list-style-type: none"> <li>• Story finding</li> <li>• Story telling</li> <li>• Story expanding</li> <li>• Story processing</li> <li>• Story reconstructing</li> </ul>

McDrury, J., Alterio, M. (2003) Learning through Storytelling in Higher Education. London: Kogan-Page, p.47

## Reflective Process and Storytelling

- First stage: inner discomfort or surprise – “something” makes the experience memorable
- Second stage: events examined in detail – stories are shared, dialogue is formed
- Third stage: relates to outcomes – decision to change or gain knowledge through reflection

McDrury, J., Alterio, M. (2003) Learning through Storytelling in Higher Education. London: Kogan-Page, p.110-1

## Storytelling = Narrative Inquiry *Mattingly in Schön (1991)*

- Aristotle: narrative – natural framework for representing world of action
- Everyday sense-making role of storytelling
- Stories reveal the way ideas look in action
- Narrative provides explanation
- Motivation for telling stories: to wrest meaning from experiences

## Story = Unpretentious Narrative *Glandin & Connelly in Schön (1991)*

- A fundamental method of personal growth
- Reflection: preparation for the future
- Deliberation: past considerations

## Storytelling as Reflection *(Schön, 1988)*

“...for storytelling is the mode of description best suited to transformation in new situations of action.”

## Storytelling as Reflection *(Schön, 1988)*

“Stories are products of reflection, but we do not usually hold onto them long enough to make them objects of reflection in their own right.”

## Storytelling as Reflection *(Schön, 1988)*

"When we get into the habit of recording our stories, we can look at them again, attending to the meanings we build into them and attending, as well, to our strategies of narrative description."

## Constructed Meaning

"The portfolio is a **laboratory** where students **construct meaning** from their accumulated experience."  
*(Paulson & Paulson, 1991, p.5)*

## Portfolio tells a Story

"A portfolio tells a story. It is the story of knowing. Knowing about things... Knowing oneself... Knowing an audience... Portfolios are students' own stories of what they know, why they believe they know it, and why others should be of the same opinion."  
*(Paulson & Paulson, 1991, p.2)*

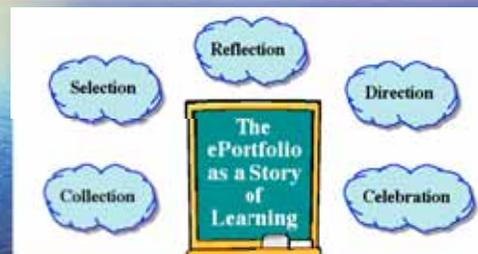
## Portfolios tell a Story

"A portfolio is opinion backed by fact... Students prove what they know with samples of their work."  
*(Paulson & Paulson, 1991, p.2)*

## *Linking Two Dynamic Processes to Promote Deep Learning*

## Portfolio Development Process Digital Storytelling

## Portfolio Development Process



## Portfolio Processes

### Traditional + Technology

- Collecting
- Archiving
- Selecting
- Linking/Thinking
- Reflecting
- Storytelling
- Directing
- Collaborating
- Celebrating
- Publishing

## Some concerns...

- Assessment for Learning
- Portfolios for Learning
- What about Motivation?

## Components of Portfolio Development

- **Content**
- **Purpose**
- **Process**

## Components of Portfolio Development

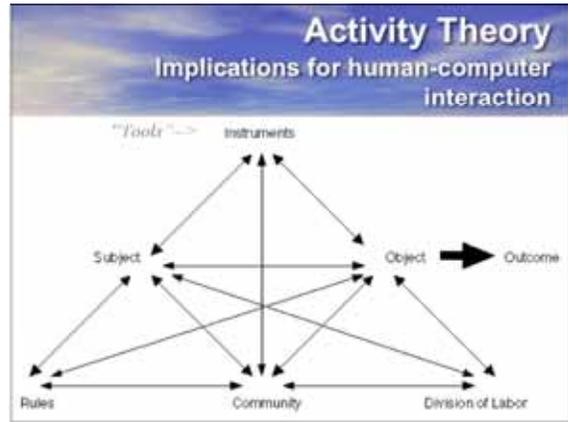
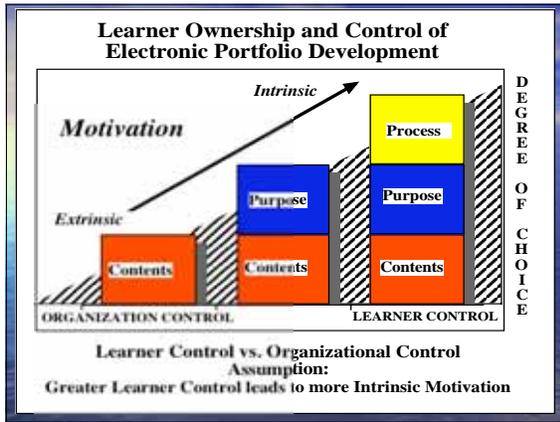
- **Content:**  
evidence  
(artifacts + reflections)

## Components of Portfolio Development

- **Purpose:**  
the reason for developing the portfolio – includes audience
  - Learning & professional development - **Process**
  - Assessment (of and for learning)
  - Showcase (Employment/Marketing)

## Components of Portfolio Development

- **Process:**
  - tools used
  - sequence of activities
  - rules
  - evaluation criteria (rubrics)
  - collaboration/conversation



- ### Activity Theory
- **Subject** - the individual or group whose point of view is taken in the analysis of the activity
  - **Object** (or objective) - the target of the activity
  - **Instruments** - internal or external mediating artifacts which help to achieve the outcomes
  - **Community** - one or more people who share the objective with the subject
  - **Rules** - regulate actions and interactions within the activity system
  - **Division of labor** - how tasks are divided horizontally between community members - any vertical division of power and status

### Linked to...

Strategies that promote Intrinsic Motivation to maintain the process for Lifelong Learning

- Online Portfolios
- Digital Storytelling
- Blogs & Wikis
- Games

- ### "Blog" #1 word of the year\*
- Merriam-Webster Inc announced its top 10 "words of the year" list, with the immensely popular "blog" taking the number one place.
  - Compiles list each year by taking the most researched words on its various Web sites
- \* Internet Scout Report, December 3, 2004

- ### Portfolios provide Encouragement for Reflection
1. ...provides both the discipline and the freedom of structure, allowing one to see one's own work. (Sonnet)
  2. ...provides the opportunity to assess one's own strengths and weaknesses through examination of a collection of samples, as well as to get feedback on one's performance from others. (Mirror)
  3. ...the process of self assessment leads one to setting goals for future development and professional growth. (Map)
- (Mary Diez, 1994)

## Helping Students to Reflect

- Provide models and examples
- Begin with forms or prompts
- Move to journals/blogs
- Be careful that reflection in portfolios doesn't become an exercise in filling in the blanks on a web-based form.

## North Carolina Reflection Cycle

Self-Assessment: The Reflective Practitioner

**1. Select**

- What evidence is required?
- Do you want or need to include any additional artifacts of evidence?
- What standards are you addressing?

**2. Describe**

- Who?
- What?
- When?
- Where?

**3. Analyze**

- Why?
- How?

**4. Appraise**

- Interpret events
- Determine impact
- Determine effectiveness
- Determine the relationship to goals, values, philosophy

**5. Transform**

- Utilize the information and data
- Apply to teaching practice
- Develop new goals and strategies based on the data

<http://www.ncpublicschools.org/pbl/pblreflect.htm>

## How might an e-portfolio support development of personal knowledge?

knowledge for acting/doing

performance

context

forethought

self-reflection

knowledge for planning actions and imagination

knowledge of self derived from doing

*Norman Jackson*  
Higher Education Academy, U.K.

## How might an e-portfolio support reflection and development of metacognition?

reflection in action

performance

context

forethought

self-reflection

reflection for action

reflection on action

*Norman Jackson*  
Higher Education Academy, U.K.

## Digital Tools for Reflection

## Digital Storytelling

## Digital Storytelling Process

Anchorage 8th grade

- Learners create a 2-4 minute digital video clip
  - First person narrative [begins with a written script ~ 400 words]
  - Told in their own voice [record script]
  - Illustrated (mostly) by still images
  - Music track to add emotional tone

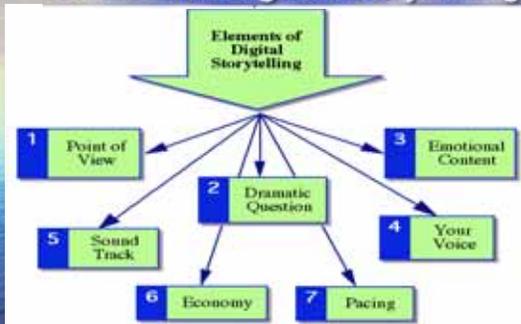
## A Graduate Student's Letter to a Former Teacher

- Maybe you are a graduate student reflecting on what is drawing you into teaching (while displaying your photo portfolio)
- Play "Coming Full Circle"



Digital Storytelling  
is BOTH...  
HIGH TECH  
and  
HIGH TOUCH

## Center for Digital Storytelling

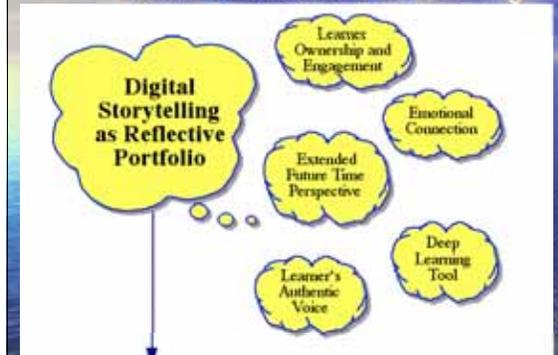


<http://www.storycenter.org>

Why include Digital Storytelling in ePortfolios?

**Learner Motivation  
and Affect**  
**Brain Research on  
Emotion in Learning**

## Constructivist Approach to Project-Based "Assessment-as-Learning"



## Deep Learning

- involves reflection,
- is developmental,
- is integrative,
- is self-directive, and
- is lifelong

Cambridge (2004)

## Voice = Authenticity

- multimedia expands the "voice" in an electronic portfolio (both literally and rhetorically)
- personality of the author is evident
- gives the reflections a uniqueness
- gives the feeling that the writer is talking directly to the reader/viewer

## More Digital Stories

- Victoria: K, 1, 2
- Naya: 7th



## Digital Paper or Digital Story?

Digital paper = text and images only  
Digital story = tell your story **in your own voice**.  
**Multimedia** = audio and video

## What's Your Story?

Richness not possible in print  
Audiences worldwide but most likely small and intimate.

## Digital Story as Legacy

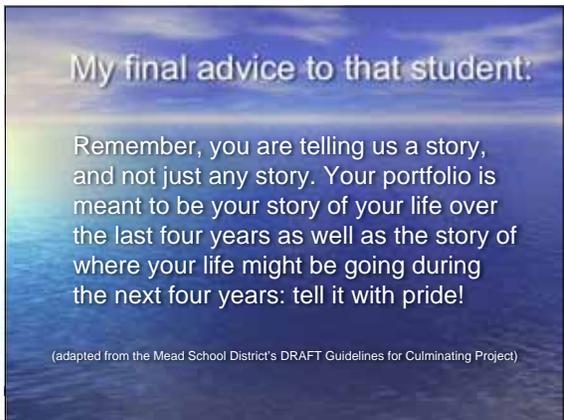
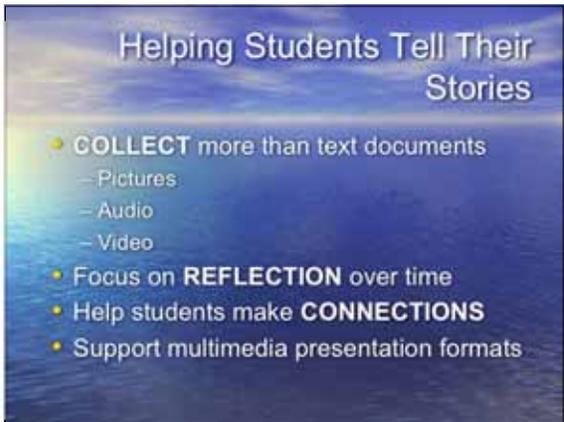
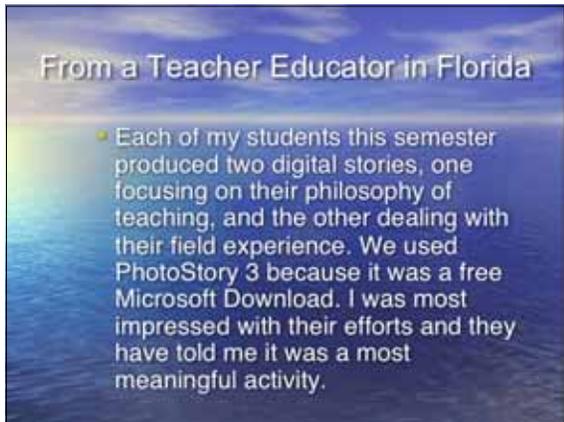
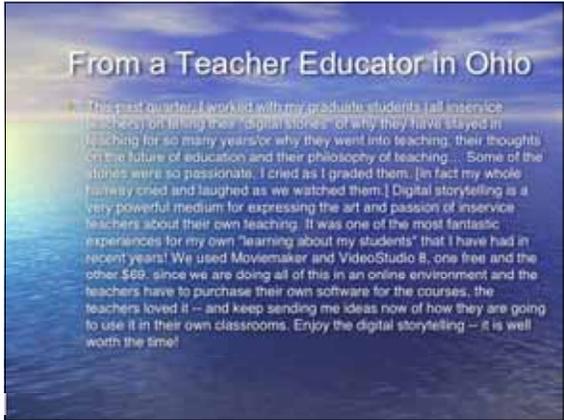
Not just for professional development  
Or skills-based portfolios

## Digital Storytelling Becomes a Lifelong Skill

Play "Legacy"



- **Digital Family Stories** from birth to end-of-life
- **Digital Family Stories** help people **reflect** on life transitions
- **Digital Family Stories** preserve multimedia memories as a legacy for future generations



## My Website and my CD



A brief look at the tools

More in-depth tutorials and examples

## The REFLECT Initiative

[reflect@taskstream.com](mailto:reflect@taskstream.com)  
<http://electronicportfolios.org/reflect/>

A research project to assess the impact of electronic portfolios on student learning, motivation and engagement in secondary schools



## My Final Wish...

May all your **electronic portfolios** become dynamic **celebrations** and **stories of deep learning** across the lifespan.

## Dr. Helen Barrett

- Research Project Director, The REFLECT Initiative
- [eportfolios@mac.com](mailto:eportfolios@mac.com)
- <http://electronicportfolios.org/>